UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/238,368	01/27/1999	IKUO SUNAGA	MM-99111	6414

7590   08/01/2003

SEYMOUR ROTHSTEIN
OLSON & HIERL
20 NORTH WACKER DRIVE
36TH FLOOR
CHICAGO, IL 60606

EXAMINER
NGUYEN, STEVEN H D

ART UNIT	PAPER NUMBER
2665	14

DATE MAILED: 08/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 May 2003</u> .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-14</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-14</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 5/22/2003 has been entered.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1-4, 6-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bharucha (USP 6324174) in view of Lyons (USP 6075798).

Bharucha discloses a method for transferring speech and voice band signals and ISDN

digital signals between an ATM network and an STM (Synchronous Transfer Mode) network

(Fig 1, Ref 3 and 5), the method comprising the steps of (a) obtaining a silence information by

detecting silence sections in input signals entered from the STM network (Fig 2, Ref 24 for

detecting a silence period from a STM network) (b) obtaining a signal type information for each

input signal by judging whether each input signal is a speech and voice band signal or an ISDN

digital signal and further judging a signal type of each input signal that is judged as the speech

and voice band signal (Fig 2, Ref 21 for determining if the type of signal for such as voice or

data, if it is a voice signal the input signal is judged to determine if the input signal needs to

compress or not; the voice signal will be compressed); (c) dynamically changing a compression

scheme of each input signal into a most appropriate compression scheme according to the silence

information obtained at the step (a) and the signal type information obtained at the step (b), and

compressing each input signal using the most appropriate compression scheme by length of

packet (Fig 2, Ref 34 for applying a compressing algorithms according to the type of signal, See

col. 4, lines 38 to col. 6, lines 20) and (f) receiving input ATM cells from the ATM network and

disassembling the input ATM cells into received packets; (g) disassembling the received packets

obtained at the step (f) into received signals; (h) judging a signal compression scheme of each

received signal obtained at the step (g); (l) expanding each received signal using the signal

compression scheme Judged at the step (h); and (j) reproducing silence sections in signals

expanded at the step (1) so as to generate STM signals, and transferring the STM signals to the

STM network (Fig 2, Ref 34 for determining the type of compression for decompression signal

and Ref 33 reproducing the silence information for transmitting to telephone network, an ATM

interface for receiving/transmitting to ATM network by assembly the payload of ATM cell or

disassembly the information signal into ATM cell which has a priority to indicate a type of

information in the payload; col. 4, lines 38 to col. 6, lines 20); However, Bharucha fails to

disclose the steps (d) assembling variable length packets each having a length shorter than that of

an ATM cell from signals compressed at the step (c) using the silence information obtained at the

step (a) and the signal type information obtained at the step (b); (e) assembling ATM cells by

multiplexing a plurality of the variable length packets assembled at the step (d), and transferring

the ATM cells to the ATM network and the different compression schemes with different

compression rates. However, in the same field of endeavor, Lyons discloses the steps (d)

assembling variable length packets each having a length shorter than that of an ATM cell from

signals compressed at the step (c) using the silence information obtained at the step (a) and the

signal type information obtained at the step (b); (e) assembling ATM cells by multiplexing a

plurality of the variable length packets assembled at the step (d), and transferring the ATM cells

to the ATM network and the different compression schemes with different compression rates

(Fig 8 and col. 9, lines 8-47 discloses the signal is compressed by a plurality of different schemes

with a different rates such as G.727 ADPCM has the compression rates at 32, 24, 16 and 40 and

G.728 LD-CELP has compression rates 16, 12 and 8 and Fig 1, 4 and 8-9, the information

signals are assembled into a plurality of variable length packets having a length shorter than

ATM cell, then multiplexing a plurality of AAL 2 packet into an ATM cell for transmitting to

ATM network; See col. 2, lines 10-53, col. 4, lines 14-54 and col. 5, lines 22 to col. 8, lines 47).

Since, Since suggests the user of ATM layer such as AAL-2 and AAL-1 and selecting

one of the compression schemes to compress the signal. Therefore, it would have been obvious

to one of ordinary skill in the art at the time of the invention was made to apply AAL 2 layer

which assembling a plurality of variable length packet and multiplexing them into ATM cell as

disclosed by Lyons into Bharucha's method and apparatus. The motivation would have been to

provide an efficient way to transport a plurality of variable length small packets in the ATM

network.

4.   Claims 5, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bharucha and Lyons as applied to claims 1, 7 and 11 above, and further in view of Lyons (USP

6282196).

Bharucha does not disclose the claimed invention. However, in the same field of

endeavor, Lyons ' 196 discloses an ATM cell transmitting side assembles the variable length

packets only from non-silence sections by eliminating silence sections indicated by the silence

Information from signals compressed at the step (c), while using a sequence counter with a value

ranging from 0 to 7 in headers of the variable length packets such that a value 0 is used for a first

packet of each non-silence section, values 1 to 7 are used repeatedly for subsequent packets of

each non-silence section, and a sequence counter is reset when a silence section occurs; the step

(f) at an ATM cell receiving side receives the input ATM cells containing the received packets

that are assembled only from non-silence sections by eliminating silence sections, and the step

(g) detects a sequence counter value in a header of each received packet such that a received

packet with the sequence counter value 0 is detected as a first packet of each non-silence section

and received packets with the sequence counter values 1 to 7 are detected as subsequent packets

of each non-silence section, so as to detect the first packet of each non-silence section as well as

an occurrence of a loss of packets and a number of lost packets for each non-silence section

when there is a loss of any consecutive packets of each non-silence section between a

transmitting side and a receiving side; and when the received packet with the sequence counter

value 0 is detected, the step (1) resets an algorithm of the signal compression scheme by taking

the received packet with the sequence counter value 0 as the first packet of the non-silence

section, so as to enable improvement of a quality of reproduced speech and voice band signals,

and when a loss of packet is detected, the step (1) makes a judgment as to whether a lost packet

is the first packet of the non-silence section or one of the subsequent packets of the non-silence

section, and applies a most appropriate loss compensation scheme according to a result of the

judgment (Col. 6, lines 24-30 discloses each AAL2 packet assigned a sequence number such as

0 to 7 wherein 0 is a beginning of voice packet and the counter will be reset when a silent period

is detected, col. 9, lines 61 to col. 10, lines 22 and Fig 5 wherein the sequence number is used to

detect a loss packet and apply a compensation scheme for loss packet and in the header of AAL2

packet has a field to allow the receiving interface to determine a compression type, See Fig 3).

Since, Bharucha suggests the user of ATM layer and inserting the silent period at the

output of the ATM network. Therefore, it would have been obvious to one of ordinary skill in the

art at the time of the invention was made to apply AAL2 packet sequence number for each

AAL2 packet and using this sequence to determine a loss packet and coding type field to

determine a compression schemes as disclosed by Lyons into Bharucha's and Lyons' 798

method and apparatus. The motivation would have been to provide an efficient way to transport

a plurality of variable length small packets in the ATM network.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Dolby (USP 6038231) discloses a method for data suppression and regeneration when the

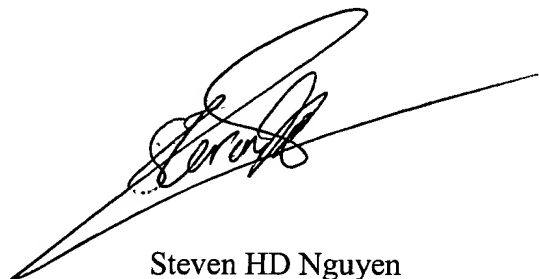signals from first TDM network is transmitted via ATM network to the second TDM network.

Caves (USP 6266343) discloses a system for data suppression and regeneration when the

signals from first TDM network is transmitted via ATM network to the second TDM network.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Steven HD Nguyen whose telephone number is (703) 308-8848.

The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy D Vu can be reached on (703) 308-6602. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 872-9314 for regular

communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-4700.

Steven HD Nguyen
Examiner
Art Unit 2665
July 24, 2003